Abstract

This patent teaches the creation and use of current amplifiers. The use of current inputs allows one to use techniques normally associated with Current Feed Amplifiers. The patent uses a family of topologies that include two inputs that are responsive to currents. These two inputs are substantially equal in properties. This is an improvement over existing Current Feedback Amplifier designs where there is actually one voltage input and one current input which draws a lot of current as it is really the output of a buffer. This patent uses amplifier topologies that give us amplifiers with lower distortion, improved frequency response, increased DC stability, and increased stability of internal biasing than prior art. This is accomplished with a simplification of circuit complexity, reduced reliance upon V_{be} matching of transistors, and takes away the need to use the long-tailed pair for amplification. The patent teaches embodiments that go beyond that of Current Feedback Amplifiers as currently implemented. This patent teaches how to amplify a signal (or the difference of two signals) by the use of dual amplified (buffered) current subtractions at a high impedance point. Some of the topologies can be used at very low supply voltages without the usual loss of performance.